From: The Real Enchilada
To: Microsoft ATR
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Subject: Microsoft Settlement

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My name is Hal Black, I am a resident of Columbia, MD, and am the Directorof Software for a small internet
security company. I think the proposedsettlement for the Microsoft anti-trust suit is insufficient and will
not break Microsoft's trust.

Rather than reiterate what has already been written, I have encluded excerptsfrom Dan Kegel's excellent essay
on the problems with the settlement whichoutlines some of the major flaws with the settlement.
How should terms like "API", "Middleware, and "Windows OS" be defined?The definitions of various terms in Part
VI of the PFJ differ fromthe definitions in the Findings of Fact and in common usage, apparantlyto Microsoft's
benefit. Here are some examples:Definition A: "API"The Findings of Fact (¶ 2) define "API" to mean the
interfacesbetween application programs and the operating system.However, the PFJ's Definition A defines it to
mean only the interfacesbetween Microsoft Middleware and Microsoft Windows, excluding Windows APIs used by
other application programs. For instance,the PFJ's definition of API might omit important APIs suchas the
Microsoft Installer APIs which are used by installer programsto install software on Windows.Definition J:
"Microsoft Middleware"The Findings of Fact (¶ 28) define "middleware" to mean application software that
itself presents a set of APIs which allow users to writenew applications without reference to the underlying
operating system.Definition J defines it in a much more restrictive way,and allows Microsoft to exclude any
software from being coveredby the definition in two ways:

By changing product version numbers.For example, if the next version of Internet Explorer were named
"7.0.0" instead of "7" or "7.0", it would not be deemed Microsoft Middleware by the PFJ.

By changing how Microsoft distributes Windows or its middleware.For example, if Microsoft introduced a
version of Windows which was only available via the Windows Update service, then nothing in thatversion of
Windows would be considered Microsoft Middleware, regardlessof whether Microsoft added it initially or in a
later update.This is analogous to the loophole in the 1995 consent decree thatallowed Microsoft to bundle its
browser by integrating it into theoperating system.
Definition K: "Microsoft Middleware Product"Definition K defines "Microsoft Middleware Product" to mean
essentiallyInternet Explorer (IE), Microsoft Java (MJ),Windows Media Player (WMP), Windows Messenger (WM), and
Outlook Express (OE).
The inclusion of Microsoft Java and not Microsoft.NET is questionable;Microsoft has essentially designated
Microsoft.NET and C# as the successors to Java, so on that basis one would expect Microsoft.NET to be included
in the definition.
The inclusion of Outlook Express and not Outlook is questionable, asOutlook (different and more powerful than
Outlook Express) is a moreimportant product in business, and fits the definition of middlewarebetter than
Outlook Express.
The exclusion of Microsoft Office is questionable, as many components ofMicrosoft Office fit the Finding of
Fact's definition of middleware.For instance, there is an active market in software written to runon top of
Microsoft Outlook and Microsoft Word, and many applicationsare deveoped for Microsoft Access by people who
have no knowledge ofWindows APIs.Definition U: "Windows Operating System

Product"Microsoft's monopoly is on
Intel-compatible operating systems. Yet thePFJ in definition U defines a "Windows Operating System Product"
to meanonly Windows 2000 Professional, Windows XP Home, Windows XP Professional,and their successors. This
purposely excludes the Intel-compatibleoperating systemsWindows XP Tablet PC Edition andWindows CE; many
applications written to the Win32 APIs can run unchanged onWindows 2000, Windows XP Tablet PC Edition, and
Windows CE,and with minor recompilation, can also be run on Pocket PC.Microsoft even proclaims
atwww.microsoft.com/windowsxp/tabletpc/tabletpcqanda.asp:"The Tablet PC is the next-generation mobile business
PC, and it will beavailable from leading computer makers in the second half of 2002. TheTablet PC runs the
Microsoft Windows XP Tablet PC Edition and featuresthe capabilities of current business laptops, including
attached ordetachable keyboards and the ability to run Windows-based applications."and Pocket PC: Powered by
WindowsMicrosoft is clearly pushing Windows XP Tablet PC Edition and Pocket PCin places (e.g. portable
computers used by businessmen) currently servedby Windows XP Home Edition,and thus appears to be trying to
evade the Final Judgment's provisions.This is but one example of how Microsoft can evade the provisions ofthe
Final Judgment by shifting its efforts away from the Operating Systems listed in Definition U and towards
Windows XP Tablet Edition, Windows CE,Pocket PC, X-Box, or some other Microsoft Operating System thatcan run
Windows applications.How should the Final Judgment erode the Applications Barrier to Entry?The PFJ tries to
erode the Applications Barrier to Entry in two ways:

By forbidding retaliation against OEMs, ISVs, and IHVs who support ordevelop alternatives to Windows.

By taking various measures to ensure that Windows allows the useof non-Microsoft middleware.

A third option not provided by the PFJ would be to make sure thatMicrosoft raises no artificial barriers
against non-Microsoftoperating systems which implement the APIs needed to runapplication programs written for
Windows. TheFindings of Fact (¶52)considered the possibility that competing operating systems could
implement the WindowsAPIs and thereby directly run software written for Windows as a way of circumventing
theApplications Barrier to Entry. This is in fact the route being taken by the Linux operatingsystem, which
includes middleware (named WINE) that can run many Windows programs.
By not providing some aid for ISVs engaged in making Windows-compatibleoperating systems, the PFJ is missing a
key opportunity to encouragecompetition in the Intel-compatible operating system market.Worse yet, the PFJ
itself, in sections III.D. and III.E., restrictsinformation released by those sections to be used "for the
sole purposeof interoperating with a Windows Operating System Product".This prohibits ISVs from using the
information for the purpose of writing operating systems that interoperate with Windows programs.How should
the Final Judgment be enforced?The PFJ as currently written appears to lack an effective enforcement
mechanism.It does provide for the creation of a Technical Committee withinvestigative powers, but appears to
leave all actual enforcement tothe legal system.What information needs to be released to ISVs to encourage
competition, and under what terms?The PFJ provides for increased disclosure of technical informationto ISVs,
but these provisions are flawed in several ways:1. The PFJ fails to require advance notice of technical

requirementsSection III.H.3. of the PFJ requires vendors of competing middlewareto meet "reasonable technical
requirements" seven months before newreleases of Windows, yet it does not require Microsoft to disclose
thoserequirements in advance. This allows Microsoft to bypass all competing middleware simply by changing the
requirements shortly beforethe deadline, and not informing ISVs.2. API documentation is released too late to
help ISVsSection III.D. of the PFJ requires Microsoft to release via MSDN or similarmeans the documentation
for the APIs used by Microsoft Middleware Products to interoperate with Windows; release would be required at
thetime of the final beta test of the covered middleware, and whenever a new version of Windows is sent to
150,000 beta testers.But this information would almost certainly not be released in time for competing
middleware vendors to adapt their products to meet therequirements of section III.H.3, which states that
competing middlewarecan be locked out if it fails to meet unspecified technical requirementsseven months
before the final beta test of a new version of Windows.3. Many important APIs would remain undocumentedThe
PFJ's overly narrow definitions of "Microsoft Middleware Product" and "API"means that Section III.D.'s
requirement to release information about Windows interfaces would not cover many important interfaces.4.
Unreasonable Restrictions are Placed on the Use of the Released DocumentationISVs writing competing operating
systems as outlined in Findings of Fact (¶52)sometimes have difficulty understanding various undocumented
Windows APIs.The information released under section III.D. of the PFJ would aid those ISVs -- except that the
PFJ disallows this use of the information.Worse yet, to avoid running afoul of the PFJ, ISVs might need to
divide up their engineers into two groups: those who refer to MSDN and work on Windows-only applications;
andthose who cannot refer to MSDN because they work on applications which also run on non-Microsoft operating
systems.This would constitute retaliation against ISVs who support competing operating systems.5. File Formats
Remain UndocumentedNo part of the PFJ obligates Microsoft to release any information about file formats,even
though undocumented Microsoft file formats form part of the ApplicationsBarrier to Entry (see "Findings of
Fact" ¶20 and ¶ 39).6. Patents covering the Windows APIs remain undisclosedSection III.I of the PFJ
requires Microsoft to offer to license certainintellectual property rights, but it does nothing to require
Microsoftto clearly announce which of its many software patents protect the Windows APIs(perhaps in the style
proposed by the W3C;
seehttp://www.w3.org/TR/2001/WD-patent-policy-20010816/#sec-disclosure).This leaves Windows-compatible operating systems in an uncertain state:are they, or are they not infringing on Microsoft
software patents? This can scareaway potential users, as illustrated by this report from
Codeweavers,Inc.:When selecting a method of porting a major application to Linux, oneprospect of mine was
comparing Wine [a competing implementation of someof the Windows APIs] and a toolkit called 'MainWin'.
MainWin is made byMainsoft, and Mainsoft licenses its software from Microsoft. However, thiscustomer elected
to go with the Mainsoft option instead.I was told that one of the key decision making factors was thatMainsoft
representatives had stated that Microsoft had certain criticalpatents that Wine was violating. My customer
could not risk crossingMicrosoft, and declined to use Wine. I didn't even have a

chance todetermine which
patents were supposedly violated; nor to disprove thevalidity of this claim.The PFJ, by allowing this unclear
legal situation to continue,is inhibiting the market acceptance of competing operating systems.Which practices
towards OEMs should be prohibited?The PFJ prohibits certain behaviors by Microsoft towards OEMs,but curiously
allows the following exclusionary practices:
Section III.A.2. allows Microsoft to retaliate against any OEM that shipsPersonal Computers containing a
competing Operating System but noMicrosoft operating system.
Section III.B. requires Microsoft to license Windows on uniform termsand at published prices to the top 20
OEMs, but says nothing about smaller OEMs. This leaves Microsoft free to retaliate against smaller OEMs,
includingimportant regional 'white box' OEMs, if they offer competing products.
Section III.B. also allows Microsoft to offer unspecified Market Development Allowances --in effect, discounts
-- to OEMs. For instance, Microsoft could offerdiscounts on Windows to OEMs based on the number of copies of
MicrosoftOffice or Pocket PC systems sold by that OEM. In effect, this allowsMicrosoft to leverage its
monopoly on Intel-compatible operating systemsto increase its market share in other areas, such as office
software or ARM-compatible operating systems.
By allowing these practices, the PFJ is encouraging Microsoftto extend its monopoly in Intel-compatible
operating systems, andto leverage it into new areas.Which practices towards ISVs should be prohibited?Sections
III.F. and III.G. of the PFJ prohibit certain exclusionarylicensing practices by Microsoft towards ISVs.
However, Microsoft uses other exclusionary licensing practices, none of whichare mentioned in the PFJ.Several
of Microsoft's products' licenses prohibit theproducts' use with popular non-Microsoft middleware and
operating systems. Two examples are given below.1. Microsoft discriminates against ISVs who ship Open Source
applicationsThe Microsoft Windows Media Encoder 7.1 SDK EULA states... you shall not distribute the
REDISTRIBUTABLECOMPONENT in conjunction with any Publicly Available Software.
"PubliclyAvailable Software"
means each of (i) any software that contains, oris derived in any manner (in whole or in part) from, any
software thatis distributed as free software, open source software (e.g. Linux) orsimilar licensing or
distribution models ...Publicly Available Software includes, without limitation,software licensed or
distributed under any of the following licenses ordistribution models, or licenses or distribution models
similar to any ofthe following: GNU's General Public License (GPL) or Lesser/Library GPL(LGPL); The Artistic
License (e.g., PERL); the Mozilla Public License;the Netscape Public License; the Sun Community Source License
(SCSL); ...Many Windows APIs, including Media Encoder, are shipped by Microsoft asadd-on SDKs with associated
redistributable components. Applications thatwish to use them must include the add-ons, even though they
might laterbecome a standard part of Windows. Microsoft often provides those SDKsunder End User License
Agreements (EULAs) prohibiting their use with Open Source applications. Thisharms ISVs who choose to
distribute their applications under Open Sourcelicenses; they must hope that the enduser has a sufficiently
up-to-date version of the addon API installed, which is often not the case.
Applications potentially harmed by this kind of EULA include the competingmiddleware product Netscape 6 and
the competing office suite StarOffice;these EULAs thus can cause support problems for,

and discourage the
useof, competing middleware and office suites. Additionally, since Open Source applications tend to also run
on non-Microsoft operatingsystems, any resulting loss of market share by Open Source applications indirectly
harms competing operating systems.2. Microsoft discriminates against ISVs who target Windows-compatible
competing Operating SystemsThe Microsoft Platform SDK, together with Microsoft Visual C++,is the primary
toolkit used by ISVs to create Windows-compatible applications.The Microsoft Platform SDK EULA
says:"Distribution Terms. You may reproduce and distribute ... the Redistributable Components... provided
that (a) you distribute the Redistributable Components only in conjunction with and as a part of your
Application solely for use with a Microsoft Operating System Product..."This makes it illegal to run many
programs built with Visual C++on Windows-compatible competing operating systems.
By allowing these exclusionary behaviors, the PFJ is contributingto the Applications Barrier to Entry faced by
competing operating systems.Which practices towards large users should be prohibited?The PFJ places
restrictions on how Microsoft licenses its products to OEMs, butnot on how it licenses products to large users
such as corporations, universities,or state and local goverments, collectively referred to as 'enterprises'.
Yet enterprise license agreements often resemble the per-processor licenses whichwere prohibited by the 1994
consent decree in the earlier US v. Microsoft antitrust case,in that a fee is charged for each desktop or
portable computer which couldrun a Microsoft operating system, regardless of whether any Microsoft software
isactually installed on the affected computer. These agreements are anticompetitivebecause they remove any
financial incentive for individuals or departments to run non-Microsoft software.Which practices towards end
users should be prohibited?Microsoft has used both restrictive licenses and intentional incompatibilitiesto
discourage users from running Windows applications onWindows-compatible competing operating systems. Two
examples aregiven below.1. Microsoft uses license terms which prohibit the use of Windows-compatible competing
operating systemsMSNBC (a subsidiary of Microsoft) offers software called NewsAlert. Its EULA states "MSNBC
Interactive grants you the right to install and usecopies of the SOFTWARE PRODUCT on your computers running
validlylicensed copies of the operating system for which the SOFTWAREPRODUCT was designed [e.g., Microsoft
Windows(r) 95; MicrosoftWindows NT(r), Microsoft Windows 3.x, Macintosh, etc.].
..."Only the Windows version
appears to be available for download.Users who run competing operating systems (such as Linux) which can run
some Windows programs might wish to run the Windows version of NewsAlert, but the EULA prohibits this.
MSNBC has a valid interest in prohibiting use of pirated copiesof operating systems, but much narrower
language could achieve the same protective effect with less anticompetitive impact. For instance, "MSNBC
Interactive grants you the right to install and usecopies of the SOFTWARE PRODUCT on your computers running
validlylicensed copies of Microsoft Windows or compatible operating system."2. Microsoft created intentional
incompatibilities in Windows 3.1 to discourage the use of non-Microsoft operating systemsAn episode from the
1996 Caldera v. Microsoft antitrust lawsuitillustrates how Microsoft has used technical means
anticompetitively.

Microsoft's original operating system was called MS-DOS. Programs used the DOS APIto call up the services of
the operating system. Digital Research offered acompeting operating system, DR-DOS, that also implemented the
DOS API, andcould run programs written for MS-DOS.Windows 3.1 and earlier were not operating systems per se,
but rather middleware that used the DOS API to interoperate with the operating system.Microsoft was concerned
with the competitive threat posed by DR-DOS, andadded code to beta copies of Windows 3.1 so it would display
spurious and misleadingerror messages when run on DR-DOS. Digital Research's successor company, Caldera,
brought a privateantitrust suit against Microsoft in 1996.(See the original complaint, andCaldera's
consolidated response to Microsoft's motions for partial summary judgment.)The judge in the case ruled
that"Caldera has presented sufficient evidence that the incompatibilitiesalleged were part of an
anticompetitive scheme byMicrosoft."That case was settled out of court in 1999, and no court has fully
exploredthe alleged conduct.
The concern here is that, as competing operating systems emerge whichare able to run Windows applications,
Microsoft might try to sabotageWindows applications, middleware, and development tools so that theycannot run
on non-Microsoft operating systems, just as they did earlierwith Windows 3.1.
The PFJ as currently written does nothing to prohibit these kindsof restrictive licenses and intentional
incompatibilities,and thus encourages Microsoft to use these techniquesto enhance the Applications Barrier to
Entry,and harming those consumers who use non-Microsoft operating systemsand wish to use Microsoft
applications software.Is the Proposed Final Judgement in the public interest?The problems identified above
with the Proposed Final Judgment can be summarized as follows:

The PFJ doesn't take into account Windows-compatible competing operating systems

Microsoft increases the Applications Barrier to Entry by using restrictive license terms and intentional
incompatibilities.Yet the PFJ fails to prohibit this, andeven contributes to this part of the Applications
Barrier to Entry.

The PFJ Contains Misleading and Overly Narrow Definitions and Provisions

The PFJ supposedly makes Microsoft publish its secret APIs, butit defines "API" so narrowly that many
important APIs are not covered.

The PFJ supposedly allows users to replace Microsoft Middleware withcompeting middleware, but it defines
"Microsoft Middleware"so narrowly that the next version of Windows might not be covered at all.

The PFJ allows users to replace Microsoft Java with a competitor's product --but Microsoft is replacing
Java with .NET. The PFJ should thereforeallow users to replace Microsoft.NET with competing middleware.

The PFJ supposedly applies to "Windows", but it defines that term sonarrowly that it doesn't
coverWindows XP Tablet PC Edition, Windows CE, Pocket PC, or the X-Box --operating systems that all use the
Win32 API and are advertizedas being "Windows Powered".

The PFJ fails to require advance notice of technical requirements,allowing Microsoft to bypass all
competing middleware simply by changing the requirements shortly before the deadline, and not informing ISVs.

The PFJ requires Microsoft to release API documentation to ISVsso they can create compatible middleware
-- but only after thedeadline for the ISVs to demonstrate that their middleware is compatible.

The PFJ requires Microsoft to release API documentation -- but prohibits competitors from using this documentation tohelp make their operating systems compatible with Windows.

The PFJ does not require Microsoft to release documentation aboutthe format of Microsoft Office documents.

The PFJ does not require Microsoft to list which software patentsprotect the Windows APIs. This leaves Windows-compatible operating systems in an uncertain state: are they, or are they not infringing on Microsoft software patents?This can scare away potential users.

The PFJ Fails to Prohibit Anticompetitive License Terms currently used by Microsoft

Microsoft currently uses restrictive licensing terms to keepOpen Source apps from running on Windows.

Microsoft currently uses restrictive licensing terms to keepWindows apps from running on competing operating systems.

Microsoft's enterprise license agreements (used by large companies,state governments, and universities) charge by the number of computerswhich could run a Microsoft operating system -- even forcomputers running Linux. (Similar licenses to OEMs were once banned by the1994 consent decree.)

The PFJ Fails to Prohibit Intentional Incompatibilities Historically Used by Microsoft

Microsoft has in the past inserted intentional incompatibilities inits applications to keep them from running on competing operating systems.

The PFJ Fails to Prohibit Anticompetitive Practices Towards OEMs

The PFJ allows Microsoft to retaliate against any OEM that ships PersonalComputers containing a competing Operating System but no Microsoftoperating system.

The PFJ allows Microsoft to discriminate against small OEMs-- including regional 'white box' OEMs which are historically the most willing to install competing operating systems -- who ship competing software.

The PFJ allows Microsoft to offer discounts on Windows (MDAs) to OEMsbased on criteria like sales of Microsoft Office or Pocket PC systems.This allows Microsoft to leverage its monopoly on Intel-compatible operating systems to increase its market share in other areas.

The PFJ as currently written appears to lack an effective enforcement mechanism. Considering these problems,one must conclude that the Proposed Final Judgment as writtenallows and encourages significant anticompetitive practices tocontinue, and would delay the emergence of competing Windows-compatibleoperating systems. Therefore, the Proposed Final Judgment is not in the public interest,and should not be adopted without addressing these issues.

Strengthening the PFJThe above discussion shows that the PFJ does not satisfy the Court of Appeals' mandate. Some of the plaintiff States have proposedan alternate settlement which fixes many of the problems identifiedabove. The States' proposal is quite different from the PFJ as a whole,but it contains many elements which are similar to elements of the PFJ,with small yet crucial changes. In the sections below, I suggest amendments to the PFJ that attempt to resolve some of the demonstrated problems(time pressure has prevented a more complete list of amendments).When discussing amendments, PFJ text is shown indented;removed text in shown in [bracketed strikeout],and new text in bold italics.Correcting the

PFJ's definitionsDefinition U should be amended to read U. "Windows Operating System Product" means [the
software code (asopposed to source code) distributed commercially by Microsoft for usewith Personal Computers
as Windows 2000 Professional, Windows XP Home,Windows XP Professional, and successors to the foregoing,
including thePersonal Computer versions of the products currently code named "Longhorn"and "Blackcomb" and
their successors, including upgrades, bug fixes,service packs, etc. The software code that comprises a Windows
OperatingSystem Product shall be determined by Microsoft in its sole discretion.]any software or firmware code
distributed commercially by Microsoftthat is capable of executing any subset of the Win32 APIs,
includingwithout exclusion Windows 2000 Professional, Windows XP Home,Windows XP Professional,Windows XP
Tablet PC Edition,Windows CE,PocketPC 2002,and successors to the foregoing, including theproducts currently
code named "Longhorn" and "Blackcomb" and theirsuccessors, including upgrades, bug fixes, service packs,
etc.Release of information to ISVsTBD
Section E should be amended to read... Microsoft shall disclose to ISVs, IHVs, IAPs, ICPs, and OEMs, [for
thesole purpose of interoperating with a Windows Operating System Product,]for the purpose of interoperating
with a Windows Operating System Productor with application software written for Windows,via the Microsoft
Developer Network ("MSDN") or similar mechanisms, theAPIs and related Documentation that are used by Microsoft
Middleware tointeroperate with a Windows Operating System Product. ...
